

What is claimed is:

1. A water-cooled vertical engine comprising:
  - a crankshaft disposed substantially vertically;
  - connecting rods;
  - a plurality of pistons connected via the connecting rods to the crankshaft;
  - a plurality of cylinders housing the pistons in a reciprocating manner;
  - a cylinder block including the cylinders;
  - a cylinder head connected to the cylinder block;
  - a plurality of combustion chambers formed by the cylinder head in cooperation with the cylinders and the pistons;
  - a combustion chamber cooling water jacket extending substantially vertically and cooling the surroundings of the combustion chambers; and
  - a cooling water pump for supplying cooling water to the combustion chamber cooling water jacket;

wherein cooling water from the cooling water pump is supplied in parallel to an upper communication part and a lower communication part provided in the combustion chamber cooling water jacket so as to be separated vertically.
2. The water-cooled vertical engine according to Claim 1 wherein a thermostat is provided in the highest part of the combustion chamber cooling water jacket, and the upper communication part is provided at a position lower than the upper half of the highest combustion chamber.
3. The water-cooled vertical engine according to Claim 1 wherein the combustion chamber cooling water jacket comprises a cylinder block cooling water jacket and a cylinder head cooling water jacket, the two water jackets being substantially separate.

4. The water-cooled vertical engine according to Claim 1 wherein at least one section of a cooling water supply passage for supplying cooling water from the cooling water pump to the combustion chamber cooling water jacket comprises a water supply pipe.

5. A water-cooled vertical engine comprising:

- a crankshaft disposed substantially vertically;
- connecting rods;
- a plurality of pistons connected via the connecting rods to the crankshaft;
- a plurality of cylinders housing the pistons in a reciprocating manner;
- a cylinder block including the cylinders;
- a cylinder head connected to the cylinder block;
- a plurality of combustion chambers formed by the cylinder head in cooperation with the cylinders and the pistons;
- a head exhaust passage;
- exhaust passage means for discharging exhaust gas from the combustion chambers to the outside;
- a combustion chamber cooling water jacket extending substantially vertically and cooling the surroundings of the combustion chambers;
- an exhaust passage cooling water jacket formed around the exhaust passage means and substantially separate and independent from the combustion chamber cooling water jacket;
- a cooling water pump for supplying cooling water to the two water jackets; and
- a thermostat provided in an upper part of the combustion chamber cooling water jacket;

wherein cooling water from the cooling water pump is supplied to the exhaust passage cooling water jacket and then being supplied in parallel to an

upper communication part and a lower communication part provided in the combustion chamber cooling water jacket so as to be separated vertically.

6. The water-cooled vertical engine according to Claim 5 wherein the thermostat is provided in the highest part of the combustion chamber cooling water jacket, and the upper communication part is provided at a position lower than the upper half of the highest combustion chamber.

7. The water-cooled vertical engine according to Claim 5 wherein the combustion chamber cooling water jacket comprises a cylinder block cooling water jacket and a cylinder head cooling water jacket.

8. The water-cooled vertical engine according to Claim 5 wherein at least one section of a cooling water supply passage for supplying cooling water from the cooling water pump to the combustion chamber cooling water jacket comprises a water supply pipe.

9. An outboard motor equipped with a water-cooled vertical engine comprising:  
intake and exhaust valves;  
a combustion chamber opened and closed by the intake and exhaust valves;  
cooling means for cooling heat generated within the combustion chamber,  
the cooling means extending substantially vertically and having a plurality of cooling  
water inlets in the vertical direction;  
cooling water that is fed to the cooling means;  
exhaust passage means for discharging exhaust gas from the combustion  
chamber to the outside; and  
supply means employing the exhaust passage means as a heat source,  
heating part of the cooling water using the heat source, and supplying to the cooling  
means the cooling water having a temperature increased by the heating;

wherein the supply means supplies the cooling water in parallel to the plurality of cooling water inlets provided in the vertical direction of the cooling means.